

Chapter 9

Ultrasound Scanner

Introduction:

1. There currently exist only *recommendations* for QC programs for ultrasound¹⁻³. However, such programs are important for ensuring the accuracy of patient examinations as well as for controlling repair and maintenance costs of the units themselves.
2. The tests listed in Table 9.1 should be performed using a general purpose transducer with time gain compensation (TGC) and depth settings as described in ref. 2.

Minimum Required Personnel Qualifications:

Level III (Advanced Radiological Systems Surveyor)

Testing Periodicity:

See [Table 9.1](#) for the periodicity of each test.

Instrumentation:

1. Tissue equivalent phantom with average velocity of sound of $1540 \text{ m/s} \pm 0.05 \%$ and an attenuation coefficient of 0.5 to 0.7 dB/MHz-cm.

References:

1. Hendrick, W.R., and Hykes, D.L. 1997 *Journal of Diagnostic Medical Sonography*: 13, pp 68-75.
2. Carson, P.L. and Zagzebski, J.A. 1981. *Pulse Echo Ultrasound Imaging Systems Performance Tests and Criteria*; AAPM Report No 8, American Institute of Physics.
3. Poznanski, A.K. 1988. *Quality Assurance for Diagnostic Imaging*; NCRP Report No. 99, National Council on Radiation Protection.